AMENDMENTS TO THE CLAIMS

1. (Currently Amended)   An ~~The~~ image processing apparatus which converts a low-resolution image to a high-resolution image comprising:

a pixel selector operable to select ~~selection means for selecting~~ a pixel of interest which is located at a position closest to a pixel for interpolation to be newly generated between pixels (hereinafter~~, simply~~ referred to as "new pixel") and adjacent pixels adjacent to the pixel of interest, from ~~the~~ pixels of the low-resolution image; ~~, respectively,~~ and[[;]]

a new pixel data calculation unit operable to calculate a ~~means for calculating the~~ difference between the adjacent pixels ~~putting between the pixel of interest~~, calculate an ~~obtaining the~~ amending value on a ~~the~~ basis of the difference and a ~~the~~ distance between the pixel of interest and the new pixel, and calculate a ~~calculating the~~ data value of the new pixel on the basis of ~~the~~ data of the pixel of interest, the difference, and the amending value.

2. (Currently Amended)   An ~~The~~ image processing method which converts a low-resolution image to a high-resolution image comprising ~~including~~:

~~a pixel selection step for~~ selecting a pixel of interest which is located at a position closest to a pixel for interpolation to be newly generated between pixels (hereinafter~~, simply~~ referred to as "new pixel") and adjacent pixels adjacent to the pixel of interest, ~~respectively,~~ from ~~the~~ pixels of the low-resolution image; [[,]] and[[;]]

~~new pixel data calculation step for obtaining~~ calculating a ~~the~~ difference between the adjacent pixels ~~putting between the pixel of interest~~, ~~obtaining~~ calculating an ~~the~~ amending value

on a ~~the~~ basis of the difference and a ~~the~~ distance between the pixel of interest and the new pixel, and calculating a ~~the~~ data value of the new pixel on ~~the~~ a basis of the data of the pixel of interest, the difference, and the amending value.

3. (Currently Amended)   An ~~The~~ image processing program recording medium having stored an image processing program performing conversion of a low-resolution image into a high-resolution image therein, which program comprises ~~includes~~:

~~a pixel selection step for~~ selecting a pixel of interest which is located at a position closest to a pixel for interpolation to be newly generated between pixels (hereinafter, ~~simply~~ referred to as "new pixel") and adjacent pixels adjacent to the pixel of interest, from the pixels of the low-resolution image; ~~, respectively;~~ and

~~a new pixel data calculation step for obtaining~~ calculating a ~~the~~ difference between the adjacent pixels ~~putting between the particular pixel~~, ~~obtaining~~ calculating an ~~the~~ amending value on a ~~the~~ basis of the difference and ~~the~~ a distance between the pixel of interest and the new pixel, and calculating a ~~the~~ data value of the new pixel on ~~the~~ a basis of the data of the pixel of interest, the difference, and the amending value.

4. (Currently Amended)   The image processor as defined in Claim 1, wherein[[:]] the pixel ~~selection means is one which~~ selector selects the following:[[,]]

data A of the pixel of interest of the low-resolution image, located at a position closest to a the pixel for interpolation to be newly generated ~~created (hereinafter, referred to as "new pixel")~~

between pixels of the low-resolution image having a distance ~~distances~~ of "1" between adjacent

pixels,

data B of an upper pixel of the low-resolution image adjacent to the pixel of interest at an

upper side thereof,

data C of a lower pixel of the low-resolution image adjacent to the pixel ~~picture~~ of

interest at a lower side thereof,

data D of a left pixel of the low-resolution image adjacent to the pixel of interest at a left

side thereof,

and data E of a right pixel of the low-resolution image adjacent to the pixel of interest at a

right side thereof; and

wherein the new pixel data calculation unit ~~means is one which~~ calculates data F of the

new pixel composing the high-resolution image by a formula of $F=A+(i/2)(E-D)+(j/2)(C-B)$,

on the basis of the data A of the pixel of interest, the data B of the upper pixel, the data C of the

lower pixel, the data D of the left pixel, the data E of the right pixel, and a ~~the~~ position of the new

pixel ~~(i,j)~~ which ~~are~~ is represented by a distance "i" in the horizontal direction and a distance "j"

in the vertical direction from the pixel of interest to the new pixel.

5. (Currently Amended)   The image processing method as defined in Claim 2,

wherein[[:]] said selecting ~~the pixel selection process is one which~~ selects the following:

data A of the pixel of interest of the low-resolution image, located at a position closest to

a the pixel for interpolation to be newly generated ~~created (hereinafter, referred to as "new pixel")~~

between pixels of the low-resolution image having <u>a distance</u> ~~distances~~ of "1" between adjacent

pixels,

data B of <u>an</u> upper pixel of the low-resolution image adjacent <u>to</u> the pixel of interest at <u>an</u>

upper side thereof,

data C of <u>a</u> lower pixel of the low-resolution image adjacent <u>to</u> the pixel of interest at <u>a</u>

lower side thereof,

data D of <u>a</u> left pixel of the low-resolution image adjacent <u>to</u> the pixel of interest at <u>a</u> left

side thereof, and

data E of <u>a</u> right pixel of the low-resolution image adjacent <u>to</u> the pixel of interest at <u>a</u>

right side thereof; and

<u>wherein said calculating</u> ~~the new pixel data calculation process is one which~~ calculates

data F of <u>the</u> new pixel composing the high-resolution image by a formula of F=A+(i/2) (E-D) +

(j/2) (C-B), on the basis of <u>the</u> data A of <u>the</u> pixel of interest, <u>the</u> data B of <u>the</u> upper pixel, <u>the</u>

data C of <u>the</u> lower pixel, <u>the</u> data D of <u>the</u> left pixel, <u>the</u> data E of <u>the</u> right pixel, <u>and a</u> ~~the~~

position of the new pixel ~~(i,j)~~ which is represented by a distance "i" in the horizontal direction

and a distance "j" in the vertical direction from the pixel of interest to the new pixel.

6. (Currently Amended)   The image processing recording medium as defined in Claim 3,

wherein[[:]] <u>said selecting</u> ~~the pixel selection process is one which~~ selects <u>the following:</u>

data A of the pixel of interest of the low-resolution image, located at a position closest to

a the pixel for interpolation to be newly generated ~~created (hereinafter, referred to as "new pixel")~~ between pixels of the low-resolution image having a distance ~~distances~~ of "1" between adjacent pixels,

data B of an upper pixel of the low-resolution image adjacent to the pixel of interest at an upper side thereof,

data C of a lower pixel of the low-resolution image adjacent to the pixel of interest at a lower side thereof,

data D of a left pixel of the low-resolution image adjacent to the pixel of interest at a left side thereof, and

data E of a right pixel of the low-resolution image adjacent to the pixel of interest at a right side thereof; and

wherein said calculating ~~the new pixel data calculation process is one which~~ calculates data F of the new pixel composing the high-resolution image by a formula of $F=A+(i/2)(E-D)+(j/2)(C-B)$, on the basis of the data A of the pixel of interest, the data B of the upper pixel, the data C of the lower pixel, the data D of the left pixel, the data E of the right pixel, and a ~~the~~ position of the new pixel ~~(i, j)~~ which is represented by a distance "i" in the horizontal direction and a distance "j" in the vertical direction from the pixel of interest to the new pixel.

7. (Currently Amended) The image processor as defined in Claim 4, wherein:

when generating the high-resolution image having twice a number of pixels in each of the horizontal and vertical directions ~~direction~~ for the low-resolution image,

the position of new pixels pixel is set by making an the absolute value of the distance "i"

in the horizontal direction and that of the distance "j" in the vertical direction from the pixel of

interest be 1/4, respectively, and

the new pixel data calculating unit means is one which, when calculating data F1, F2, F3

and F4 of the new pixels pixel located at an upper left, an upper right, a lower left, and a lower

right of the pixel of interest, respectively, by $F=A+(i/2)(E-D)+(j/2)(C-B)$, previously calculates

$X=(i/2)(E-D)$ and $Y=(j/2)(C-B)$, and then calculates $F1=A-X-Y$, $F2=A+X-Y$, $F3=A-X+Y$, and

$F4=A+X+Y$.

8. (Currently Amended) The image processing method as defined in Claim 5, wherein:

when generating the high-resolution image having twice a number of pixels in both the

horizontal and vertical direction directions for the low-resolution image,

the position of new pixels pixel is set by making an the absolute value values of the

distance "i" in the horizontal direction and the distance "j" in the vertical direction from the pixel

of interest be 1/4, respectively, and

said calculating the new pixel data calculating process is one which, when calculating

data F1, F2, F3 and F4 of the new pixels pixel located at an upper left, an upper right, a lower

left, and a lower right of the pixel of interest, respectively, by $F=A+(i/2)(E-D)+(j/2)(C-B)$,

previously calculates $X=(i/2)(E-D)$ and $Y=(j/2)(C-B)$, and then calculates $F1=A-X-Y$,

$F2=A+X-Y$, $F3=A-X+Y$, and $F4=A+X+Y$.

9. (Currently Amended)   The image processing program recording medium as defined in Claim 6, wherein:

when generating the high-resolution image having twice a number of pixels in both the horizontal and vertical directions ~~direction~~ for the low-resolution image,

the position of new pixels ~~pixel~~ is set by making ~~made by setting~~ an ~~the~~ absolute value ~~values~~ of the distance "i" in the horizontal direction and the distance "j" in the vertical direction from the pixel of interest be 1/4, respectively, and

said calculating ~~the new pixel data calculating process is one which~~, when calculating data F1, F2, F3 and F4 of the new pixels ~~pixel~~ located at an upper left, an upper right, a lower left, and a lower right of the pixel of interest, respectively, by F=A+(i/2)(E-D)+(j/2)(C-B), previously calculates X=(i/2)(E-D)and Y=(j/2)(C-B) and then calculates F1=A-X-Y, F2=A+X-Y, F3=A-X+Y, and F4=A+X+Y.

10. (Currently Amended)   The image processor as defined in Claim 1, wherein[[:]] the pixel selector ~~selection means is one which~~ selects the following:

data A of the pixel of interest located at a position closest to the ~~a~~ pixel for interpolation to be newly generated ~~(hereinafter, simply referred to as "new pixel")~~ between pixels of the low-resolution image having a distance between adjacent pixels being "1",

data B of an upper pixel of the low-resolution image adjacent to ~~at~~ an upper side of the pixel of interest,

data C of <u>a</u> lower pixel of <u>the</u> low-resolution image adjacent <u>to</u> ~~at~~ <u>a</u> lower side of the pixel of interest, and

wherein the new pixel data calculation <u>unit</u> ~~means is one which~~ calculates data F of the new pixel by a formula of F=A+ (j/2) (C-B) on the basis of the data A of <u>the</u> pixel of interest, <u>the</u> data B of <u>the</u> upper pixel, <u>the</u> data C of <u>the</u> lower pixel, and <u>a</u> ~~the~~ distance "j" in <u>a</u> ~~the~~ vertical direction from the pixel of interest to the new pixel.

11. (Currently Amended)   The image processing method as defined in Claim 2, wherein[[:]] <u>said selecting</u> ~~the pixel selection process is one which~~ selects <u>the following:</u>

data A of <u>the</u> pixel of interest located at a position closest to <u>the</u> ~~a~~ pixel for interpolation to be newly generated ~~(hereinafter, simply referred to as "new pixel")~~ between pixels of <u>the</u> low-resolution image having a distance between adjacent pixels being "1",

data B of <u>an</u> upper pixel of <u>the</u> low-resolution image adjacent ~~at~~ <u>to an</u> upper side of the pixel of interest,

data C of <u>a</u> lower pixel of <u>the</u> low-resolution image adjacent ~~at~~ <u>to a</u> lower side of the pixel of interest, and

wherein <u>said calculating</u> ~~the new pixel data calculation process is one which~~ calculates data F of the new pixel by a formula of F=A+ (j/2) (C-B) on the basis of the data A of <u>the</u> pixel of interest, <u>the</u> data B of <u>the</u> upper pixel, <u>the</u> data C of <u>the</u> lower pixel, and <u>a</u> ~~the~~ distance "j" in <u>a</u> ~~the~~ vertical direction from the pixel of interest to the new pixel.

12. (Currently Amended)   The image processing program recording medium as defined in Claim 3, wherein[[:]] said selecting ~~the pixel selection process is one which~~ selects the following:

data A of the pixel of interest located at a position closest to the ~~a~~ pixel for interpolation to be newly generated ~~(hereinafter, simply referred to as "new pixel")~~ between pixels of the low-resolution image having a distance between adjacent pixels being "1",

data B of an upper pixel of the low-resolution image adjacent ~~at~~ to an upper side of the pixel of interest,

data C of a lower pixel of the low-resolution image adjacent ~~at~~ to a lower side of the pixel of interest, and

wherein said calculating ~~the new pixel data calculation process is one which~~ calculates data F of the new pixel by a formula of F=A+ (j/2) (C-B) on the basis of the data A of the pixel of interest, the data B of the upper pixel, the data C of the lower pixel, and a ~~the~~ distance "j" in a ~~the~~ vertical direction from the pixel of interest to the new pixel.

13. (Currently Amended)   The image processor as defined in Claim 10, wherein:

when generating the high-resolution image having twice a number of pixels in the vertical direction for the low-resolution image, the position of new pixels ~~pixel~~ is set by making an ~~made by setting the~~ absolute value of the distance "j" in the vertical direction from the pixel of interest be 1/4, and

said calculating ~~the new pixel data calculation means is one which~~, when calculating data F5 and F6 of the new pixels ~~pixel which are adjacent~~ located at the upper side and the lower side of the pixel of interest, respectively, by a formula of F=A+(j/2)(C-B), calculates Y=(j/2)(C-B) previously, and then calculates F5=A-X and F6=A+Y.

14. (Currently Amended) The image processing method as defined in Claim 11, wherein:

when generating the high-resolution image having twice a number of pixels in the vertical direction for said low-resolution image, the position of new pixels ~~pixel~~ is set by making an ~~made have the~~ absolute value of the ~~a~~ distance "j" in the vertical direction from the pixel of interest be ~~being~~ 1/4, and

said calculating ~~the new pixel data calculation process is one which~~, when calculating the data F5 and F6 of the new pixels ~~pixel~~ located at the upper side and the lower side of the pixel of interest, respectively, by a formula of F=A+(j/2)(C-B), previously calculates Y=(j/2)(C-B), and then calculates F5=A-X and F6=A+Y.

15. (Currently Amended) The image processing program recording medium as defined in Claim 12, wherein:

when generating the high-resolution image having twice a number of pixels in the vertical direction for the low-resolution image, the position of ~~the~~ new pixels ~~pixel~~ is set by making

an ~~made have the~~ absolute value of the ~~a~~ distance "j" in the vertical direction from the pixel of interest be 1/4, and

said calculating ~~the new pixel data calculation process is one which~~, when calculating data F5 and F6 of the new pixels ~~pixel~~ located at the upper side and the lower side of the pixel of interest, respectively, by a formula of F=A+(j/2)(C-B), previously calculates Y=(j/2)(C-B), and then calculates F5=A-X and F6=A+Y.